

**Table 3–1 Comparison of Mission-Based Program Activities Under the Proposed Alternatives**

NO ACTION ALTERNATIVE	EXPANDED OPERATIONS ALTERNATIVE	REDUCED OPERATIONS ALTERNATIVE
<b>National Security/Defense Mission</b>		
<b>Stockpile Stewardship and Management Program</b> (see Sections 3.1.1.1, 3.2.1.1, and 3.3.1.1 of this SWEIS for additional information)		
Maintain readiness to conduct underground nuclear tests	Same as under the No Action Alternative	Same as under the No Action Alternative
Conduct up to 10 dynamic experiments per year within NNSS Areas 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 16, 19, or 20	Conduct up to 20 dynamic experiments per year within NNSS Areas 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 16, 19, or 20	Conduct up to 6 dynamic experiments per year at the NNSS; no dynamic or dynamic plutonium experiments or hydrodynamic tests would be conducted in Areas 19 or 20
Conduct up to 20 conventional explosives experiments per year at BEEF and up to 10 per year within NNSS Areas 1, 2, 3, 4, 12, or 16 using up to 70,000 pounds TNT [2,4,6-trinitrotoluene]-equivalent of explosive charges; would also support Work for Others Program	<ul style="list-style-type: none"> <li>Conduct up to 100 conventional explosives experiments per year within NNSS Areas 1, 2, 3, 4, 12, or 16 using up to 120,000 pounds TNT-equivalent of explosive charges (70,000 pounds at BEEF); would also support Work for Others Program</li> <li>Add second firing table and high-energy x-ray capability at BEEF</li> <li>Establish up to three areas at the NNSS for conducting explosive experiments with depleted uranium</li> </ul>	Conduct up to 10 conventional explosives experiments at BEEF using up to 70,000 pounds TNT-equivalent of explosive charges per year to directly support the Stockpile Stewardship and Management Program; no other explosives experiments would be conducted
Conduct up to 12 shock physics experiments per year at the NNSS using actinide targets at JASPER in Area 27 and up to 10 experiments per year using the Large-Bore Powder Gun in Area 1	Conduct up to 36 shock physics experiments per year at the NNSS using actinide targets at JASPER in Area 27 and up to 24 experiments per year using the Large-Bore Powder Gun in Area 1	Conduct up to 6 shock physics experiments per year at the NNSS using actinide targets at JASPER in Area 27 and up to 8 tests using the Large-Bore Powder Gun in Area 1
Conduct up to 500 criticality experiments, training, and other operations per year at the Criticality Experiment Facility at DAF in Area 6	Same as under the No Action Alternative	Same as under the No Action Alternative
Maintain the Atlas Facility in standby with the capability to conduct up to 12 pulsed-power experiments per year	Activate the Atlas Facility and conduct up to 24 pulsed-power experiments per year	Decommission and disposition the Atlas Facility
Conduct up to 600 plasma physics and fusion experiments at NLVF and 50 per year in NNSS Area 11	Conduct up to 1,000 plasma physics and fusion experiments each year at NLVF and 650 per year in NNSS Area 11, increasing the size and complexity of such experiments	Conduct up to 350 plasma physics and fusion experiments each year at NLVF and 25 in NNSS Area 11
Conduct five drillback operations at NNSS over about a 10-year period	Same as under the No Action Alternative	Same as under the No Action Alternative

NO ACTION ALTERNATIVE	EXPANDED OPERATIONS ALTERNATIVE	REDUCED OPERATIONS ALTERNATIVE
Conduct Stockpile Management Program activities in NNSS Areas 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 16, 19, or 20, including:	Same as under the No Action Alternative, plus the following activities:	Same as under the No Action Alternative, except:  Stockpile Stewardship and Management Program activities would be the same as under the No Action Alternative, except activities would not be conducted in Areas 19 and 20 (such activities are not currently conducted in Areas 18, 29, and 30)
– Disposition damaged U.S. nuclear weapons	<ul style="list-style-type: none"> <li>– Stage nuclear devices pending dismantlement, modification/maintenance, and/or transportation to another location</li> <li>– Dismantle up to 100 nuclear weapons per year</li> <li>– Replace limited-life components of up to 360 nuclear devices and conduct associated maintenance activities</li> <li>– Test weapons components for quality assurance under the Limited Life Component Exchange Program</li> </ul>	
– Stage special nuclear material, including nuclear weapon pits	Stage special nuclear material, including nuclear weapon pits, and transfer between 4 and 5 metric tons of special nuclear material from other parts of the DOE Complex for use in experiments at the NNSS	
Conduct training for the Office of Secure Transportation up to six times per year at various locations on NNSS roads	<p>Same as the No Action Alternative, plus:</p> <p>Develop facilities in Area 17 and upgrade or construct new facilities in Area 6, 12, or 23 to support training for the Office of Secure Transportation</p>	Conduct training for the Office of Secure Transportation up to four times per year at various locations on NNSS roads
<p>Conduct the following Stockpile Stewardship operations at the TTR:</p> <ul style="list-style-type: none"> <li>– Conduct tests and experiments, including flight test operations for gravity weapons (i.e., bombs)</li> <li>– Conduct ground/air-launched rocket and missile operations</li> <li>– Conduct impact testing</li> <li>– Conduct passive testing of joint test assemblies and conventional weapons</li> <li>– Conduct fuel-air explosives testing</li> </ul>	Same as under the No Action Alternative	<p>Same as under the No Action Alternative except:</p> <ul style="list-style-type: none"> <li>– Discontinue ground/air launched-rocket and missile operations</li> <li>– Discontinue fuel-air explosives testing at the TTR</li> </ul>
<b>Nuclear Emergency Response and Nonproliferation and Counterterrorism Programs</b> (see Section 3.1.1.2, 3.2.1.2, and 3.3.1.3 of this SWEIS for more information)		
Provide support for the Nuclear Emergency Support Team, the Federal Radiological Monitoring and Assessment Center, the Accident Response Group, and Radiological Assistance Program. Most of this support is out of RSL.	Same as under the No Action Alternative	Same as under the No Action Alternative
Conduct Aerial Measuring System activities from RSL base	Same as under the No Action Alternative	Same as under the No Action Alternative
Conduct WMD emergency responder training at various NNSA/NSO venues	Same as under the No Action Alternative	Same as under the No Action Alternative

NO ACTION ALTERNATIVE	EXPANDED OPERATIONS ALTERNATIVE	REDUCED OPERATIONS ALTERNATIVE
Support DOE Emergency Communications Network	Same as under the No Action Alternative	Same as under the No Action Alternative
Disposition improvised nuclear devices	Disposition improvised nuclear devices and relocate the NNSA and Federal Bureau of Investigation Disposition Forensics Programs to the NNSS	Same as under the No Action Alternative
Integrate existing activities and primarily NNSS facilities to support U.S. efforts to control the spread of WMDs, particularly nuclear WMDs, including arms control, nonproliferation activities, nuclear forensics, and counterterrorism capabilities	<p>Same as under the No Action Alternative, plus:</p> <p>At the NNSS:</p> <ul style="list-style-type: none"> <li>• Construct laboratory space and other facilities for design and certification of treaty verification technology, training of inspectors, and development of arms control confidence-building measures as part of the Arms Control Treaty Verification Test Bed<sup>1</sup></li> <li>• Develop and construct new facilities to support a Nonproliferation Test Bed to simulate chemical and radiological processes that an adversary would clandestinely conduct<sup>1</sup></li> <li>• Construct an Urban Warfare Complex to support counterterrorism training<sup>1</sup></li> </ul>	Same as under the No Action Alternative
<b>Work for Others Program</b> (see Sections 3.1.1.3, 3.2.1.3 and 3.3.1.3 of this SWEIS for more information)		
Continue to conduct Work for Others Program activities in all appropriate zones on the NNSS and at RSL and NLVF	Same as under the No Action Alternative, except the NNSS land use zone designation for Area 15 would be changed from “Reserved Zone” to “Research, Test, and Experiment Zone”	Same as under the No Action Alternative except Work for Others Program activities, with the exception of military training and exercises, would not be conducted in Areas 18, 19, 20, 29, and 30 at the NNSS
Host treaty verification activities	Same as under the No Action Alternative	Same as under the No Action Alternative
Conduct nonproliferation projects and counterproliferation research and development at the NNSS, including:	Same as under the No Action Alternative	Same as under the No Action Alternative except:
<ul style="list-style-type: none"> <li>– Conduct conventional weapons effects and other explosives experiments</li> <li>– Support development of capabilities to detect and defeat military targets in deeply buried hardened targets</li> </ul>		<p>Discontinue conventional weapons effects and other Work for Others Program explosives experiments</p> <p>Discontinue development of capabilities to defeat mili</p>

NO ACTION ALTERNATIVE	EXPANDED OPERATIONS ALTERNATIVE	REDUCED OPERATIONS ALTERNATIVE
Conduct criticality experiments to support NASA's deep space power source development within the parameters for criticality experiments established under the Stockpile Stewardship and Management Program	Support NASA's deep space power source development, including conducting experiments using existing boreholes at the NNSS to sequester emissions such as radionuclides <sup>1</sup>	Same as under the No Action Alternative
Host the use of various aerial platforms, such as airplanes and helicopters, at various locations at the NNSS for research and development, training, and exercises	<ul style="list-style-type: none"> <li>• Increase use of various aerial platforms, such as airplanes and helicopters, for research and development, training, and exercises, including constructing additional hangers, shops, and buildings at existing airports at the NNSS</li> <li>• Conduct up to 3 underground and 12 open-air radioactive tracer experiments per year</li> <li>• Host treaty verification activities, including development of a facility for simulating nuclear fuel cycle-related radionuclide release detection and characterization<sup>1</sup></li> <li>• Develop a facility for specialized explosive experiments and simulated manufacture to support HE experiments<sup>1</sup></li> <li>• Support increased research and development of active interrogation equipment, methods, and training</li> <li>• Develop new facilities to support research and development in radio frequency generation and infrasonic observations<sup>1</sup></li> <li>• Develop new facilities, including simulated clandestine laboratories, to support chemical and biological simulant experiments<sup>1</sup></li> </ul>	Same as under the No Action Alternative
Conduct Work for Others Program activities at the TTR, including robotics testing, smart transportation-related testing, smoke obscuration operations, infrared tests, and rocket development	Same as under the No Action Alternative	Same as under the No Action Alternative
<b>Environmental Management Mission</b>		
<b>Waste Management Program</b> (see Sections 3.1.2.1, 3.2.2.1, and 3.3.2.1 of this SWEIS for more information)		
Dispose up to 15,100,000 cubic feet of LLW and 10,200,000 cubic feet of MLLW <sup>2</sup> in the Area 5 RWMC	Dispose up to 48,000,000 cubic feet of LLW and 4,000,000 cubic feet of MLLW <sup>2</sup> at the Area 5 RWMC and Area 3 RWMS	Same as under the No Action Alternative
Maintain the Area 3 RWMS on standby	Open the Area 3 RWMS for disposal of authorized and/or permitted waste.	Same as under the No Action Alternative
Repackage onsite-generated MLLW	Same as under the No Action Alternative, plus: Treat MLLW received from on- and offsite generators via macroencapsulation and microencapsulation, sorting/segregating, and bench-scale mercury amalgamation, as appropriate, and store at the Area 5 RWMC pending treatment or disposal	Same as under the No Action Alternative

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Continue to use rail-to-truck transloading facilities outside of Nevada	Increase rail-to-truck transloading, including use of facilities within Nevada	Same as under the No Action Alternative
Store onsite-generated TRU waste pending offsite disposal	Same as under the No Action Alternative, except a larger volume of TRU waste would be generated by increased activities at NNSS facilities, such as JASPER	Same as under the No Action Alternative, except smaller volumes of TRU waste would be generated by reduced operational levels at NNSS facilities, such as JASPER
Store onsite-generated hazardous waste as needed at the Area 5 Hazardous Waste Storage Unit pending offsite treatment or disposal	Same as under the No Action Alternative	Same as under the No Action Alternative
Operate the Area 11 Explosive Ordnance Disposal Unit	Same as under the No Action Alternative	Same as under the No Action Alternative
Operate the Area 6 Hydrocarbon Landfill	Same as under the No Action Alternative	Same as under the No Action Alternative
Operate the Area 23 Solid Waste Disposal Site and the U10c Solid Waste Disposal Site	Same as under the No Action Alternative, plus: Larger volumes of solid sanitary waste would be generated by increased activity levels at NNSS. Construct new sanitary solid waste disposal facilities as needed in Area 23 and develop a new solid waste disposal site in Area 25 to support environmental restoration activities	Same as under the No Action Alternative, except lower volumes of solid sanitary waste would be generated by reduced activity levels at NNSS
<b>Environmental Restoration Program</b> (see Sections 3.1.2.2, 3.2.2.2, and 3.3.2.2 of this SWEIS for more information)		
Underground Test Area Project – Comply with FFACO; monitor groundwater from existing wells; drill new characterization and monitoring wells; develop groundwater flow and transport models; and continue to evaluate closure strategies	Same as under the No Action Alternative	Same as under the No Action Alternative
Soils Project – Identify and characterize areas with contaminated soils and perform corrective actions in compliance with FFACO	Same as under the No Action Alternative	Same as under the No Action Alternative
Industrial Sites Project – Identify, characterize, and remediate industrial sites under FFACO and continue decontaminating and decommissioning facilities	Same as under the No Action Alternative	Same as under the No Action Alternative
Defense Threat Reduction Agency sites – In accordance with FFACO, perform remediation activities at sites that are the responsibility of the Defense Threat Reduction Agency	Same as under the No Action Alternative	Same as under the No Action Alternative
Execute the Borehole Management Program	Same as under the No Action Alternative	Same as under the No Action Alternative

NO ACTION ALTERNATIVE	EXPANDED OPERATIONS ALTERNATIVE	REDUCED OPERATIONS ALTERNATIVE
<b>Nondefense Mission</b>		
<b>General Site Support and Infrastructure Program</b> (see Sections 3.1.3.1, 3.2.3.1, and 3.3.3.1 of this SWEIS for more information)		
<p>Conduct small projects to maintain the present capabilities of NNSA/NSO facilities in all areas of the NNSS and at NLVF, RSL, and the TTR</p> <p>Maintain existing infrastructure, manage various permits and agreements, and provide security for the former Yucca Mountain site.</p>	<p>Same as under the No Action Alternative, plus:</p> <ul style="list-style-type: none"> <li>• Construct a new 85,000-square-foot multistory security building in Area 23</li> <li>• Replace the NNSS 138-kilovolt electrical transmission system</li> <li>• Expand cellular telecommunication system on the NNSS</li> <li>• Reconfigure Mercury</li> </ul>	<p>Same as under the No Action Alternative, except:</p> <p>No infrastructure projects would be conducted within Areas 18, 19, 20, 29, and 30 at the NNSS beyond maintaining mission-critical existing electrical and communication facilities and Well 8</p>
<b>Conservation and Renewable Energy Program</b> (see Sections 3.1.3.2, 3.2.3.2, and 3.3.3.2 of this SWEIS for more information)		
Continue to identify and implement energy conservation measures and renewable energy projects in compliance with applicable Executive orders and DOE Orders	Same as under the No Action Alternative plus	Same as under the No Action Alternative except
– Reduce energy intensity by 3 percent annually		
– Reduce greenhouse gas emissions by 28 percent by fiscal year 2020		
– Install advanced electric metering systems		
– Obtain at least 7.5 percent of the NNSS annual electricity and thermal consumption from renewable energy sources		
– Support development of a 240-megawatt commercial solar power generation facility in Area 25 <sup>1</sup>	<ul style="list-style-type: none"> <li>• Modify NNSS land use zones to establish a 39,600-acre Renewable Energy Zone in Area 25 and support development of commercial solar power facilities in Area 25 with a maximum combined generating capacity of 1,000 megawatts<sup>1</sup></li> <li>• Construct a 5-megawatt photovoltaic solar power facility near the Area 6 Construction Facilities</li> <li>• Support a Geothermal Energy demonstration project and Geothermal Research Center at the NNSS<sup>1</sup></li> </ul>	Support development of a 100-megawatt commercial solar power generation facility in Area 25 <sup>1</sup>
– Reduce water use by 16 percent by 2015		
– Maximize use of alternative fuels (e.g., E85 and biodiesel)		
– Ensure all new construction and renovation projects implement high-performance building goals		
<b>Other Research and Development Programs</b> (see Sections 3.1.3.3, 3.2.3.3, and 3.3.3.3 of this SWEIS for more information)		
Support the DOE National Environmental Research Park Program and other non-DOE/NNSA research and development activities in all areas of the NNSS	Same as under the No Action Alternative	National Environmental Research Park Program and other non-DOE/NNSA research and development activities would be conducted in all areas of the NNSS except Areas 18, 19, 20, 29, and 30

NO ACTION ALTERNATIVE	EXPANDED OPERATIONS ALTERNATIVE	REDUCED OPERATIONS ALTERNATIVE
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BEEF = Big Explosives Experimental Facility; DOE = U.S. Department of Energy; FFACO = Federal Facilities Agreement and Consent Order; JASPER = Joint Actinide Shock Physics Experimental Research Facility; LLW = low-level radioactive waste; MLLW = mixed low-level radioactive waste; NASA = National Aeronautics and Space Administration; NLVF = North Las Vegas Facility; NNSA = National Nuclear Security Administration; NNSS = Nevada National Security Site; RSL = Remote Sensing Laboratory; RWMC = Radioactive Waste Management Complex; RWMS = Radioactive Waste Management Site; TRU = transuranic; TTR = Tonopah Test Range; WMD = weapon of mass destruction.

<sup>1</sup> These potential projects have not reached a point of development to allow full analysis in this *NNSS SWEIS* and would be subject to additional NEPA analysis before NNSA would make any decision regarding implementation.

<sup>2</sup> The MLLW volume under the No Action and Reduced Operations Alternatives is greater than that under the Expanded Operations Alternative because the No Action Alternative volumes of MLLW are based on the difference between the volume of MLLW analyzed in the *1996 NTS EIS* and the actual volumes received for disposal at the NNSS between 1996 and 2010. A very small volume of MLLW was disposed at the NNSS during those 14 years. This is because, except for the period from December 2005 through November 2010, the NNSS MLLW disposal cell was permitted to accept only MLLW generated by DOE within the state of Nevada. Therefore, MLLW generated by DOE outside of Nevada that could have been disposed at the NNSS before December 2005 was disposed at other permitted facilities.